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Art Unit: 2613

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method for promoting temporal resolution of sequential
images, comprising the steps of:

choosing a first visual frame of a train of sequential images and splitting [[it]] the

first visual frame into a plurality of visual blocks according to a predetermined

[[value]] block size;

choosing a second visual frame of the train of sequential images;

searching in the second visual frame for a mostly most resembling respective

visual block blocks corresponding to [[every]] a visual block in the first visual

frame for every visual block in the first visual frame;

estimating a respective estimate the vector displacement of respective

corresponding visual blocks of the first and [[the]] second visual frame frames for

every visual block;

rebuilding a visual frame according to the estimated vector displacement obtained

above and estimating estimate the respective pixel values of respective

corresponding visual blocks of the first and [[the]] second visual frame frames at a

time point for every visual block and combining the estimated pixel values of

visual blocks to create [[the]] a rebuilt visual frame;

applying a median-value-filtering procedure upon the rebuilt visual frame to create

a median-value-filtered visual frame; and

applying a spatial low-pass filtering procedure upon the median-value-filtered

rebuilt visual frame, which has undergone the previous procedure;

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wherein for each pixel in a visual block of the rebuilt visual frame, the median-value-filtering procedure comprises the steps of:

comparing pixel values of corresponding pixels of corresponding blocks in the first visual frame, the second visual frame and the rebuilt visual frame to generate a median pixel value; and

performing a mean operation on the median pixel value and the pixel value of a corresponding pixel in the rebuilt visual frame to generate a pixel value for the median-value-filtered visual frame.

2. (Currently Amended) The method according to claim 1, wherein the first visual frame is [[the]] a current visual frame and the second visual frame is a past visual frame previous to the current [[one]] frame.

3. (Currently Amended) The method according to claim 1, wherein the step of method for rebuilding a visual frame comprises:

creating a first interpolation visual frame based on a basing on the vector displacement estimation of [[the]] corresponding visual blocks in the first interpolation visual frame and the first visual frame and [[that]] a vector displacement estimation of corresponding visual blocks in the first interpolation visual frame and the second visual frame to generate pixel values thereby induce the pixel value of every visual block in the first interpolation visual frame;

creating a second interpolation visual frame based on a mean pixel value of corresponding pixel values of corresponding visual blocks in having its pixel value of each visual blocks induced basing on the mean pixel value of the first and

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[[the]] second visual ~~frame~~ <u>frames for every pixel in every visual block to generate</u>

<u>pixel values;</u> and

<u>performing a mean operation on the pixel values of respective corresponding</u>

<u>pixels in the first and second interpolation visual frames to generate pixel values</u>

<u>for the rebuilt visual frame.</u>

~~creating the rebuilt visual frame, which is composed of the mean pixel value of~~

~~each visual block in the first and the second interpolation visual frame.~~

4. (Cancelled).

5. (Cancelled).

6. (New) A method for promoting temporal resolution of sequential images, comprising the steps of:

choosing a first visual frame of a train of sequential images and splitting the first visual frame into a plurality of visual blocks according to a predetermined block size;

choosing a second visual frame of the train of sequential images;

searching in the second visual frame for a most resembling visual block corresponding to a visual block in the first visual frame for every visual block in the first visual frame;

estimating a respective vector displacement for corresponding visual blocks of the first and second visual frames for every visual block;

rebuilding a visual frame according to the estimated vector displacement and estimating respective pixel values in a visual block of corresponding visual blocks

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of the first and second visual frames for every visual block at a time point and

combining the estimated pixel values of visual blocks to create a rebuilt visual

frame;

dividing visual blocks of the rebuilt visual frame into a first block set including

visual blocks having non-zero estimated vector displacements and a second block .

set including visual blocks having zero estimated vector displacements;

applying a median-value-filtering procedure upon the first block set of the rebuilt

visual frame and copying the second block set of the rebuilt visual frame to create

a median-value-filtered visual frame; and

applying a spatial low-pass filtering procedure upon the median-value-filtered

visual frame;

wherein for each pixel in a visual block of the first block set of the rebuilt visual

frame, the median-value-filtering procedure comprises the steps of:

> comparing pixel values of corresponding pixels of corresponding blocks in the
>
> first visual frame, the second visual frame and the rebuilt visual frame to
>
> generate a median pixel value; and
>
> performing a mean operation on the median pixel value and the pixel value of a
>
> corresponding pixel in the rebuilt visual frame to generate a pixel value for the
>
> median-value-filtered visual frame.

7. (New) The method according to claim 6, wherein the first visual frame is a current

visual frame and the second visual frame is a past visual frame previous to the

current frame.

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8. (New) The method according to claim 6, wherein the step of rebuilding a visual

frame comprises:

creating a first interpolation visual frame based on a vector displacement

estimation of corresponding visual blocks in the first interpolation visual frame and

the first visual frame and a vector displacement estimation of corresponding visual

blocks in the first interpolation visual frame and the second visual frame to

generate pixel values of every visual block in the first interpolation visual frame;

creating a second interpolation visual frame based on a mean pixel value of

corresponding pixel values of corresponding visual blocks in the first and second

visual frames for every pixel in every visual block to generate pixel values; and

performing a mean operation on the pixel values of respective corresponding

pixels in the first and second interpolation visual frames to generate pixel values

for the rebuilt visual frame.

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